

## **Dehydration and Heat Related Concerns For Older Adults and the Disabled**

### **How **HOT** is it?**

Summer in our area is full of surprises. One thing we can usually count on is a **HOT SPELL** at least once during the season. You may have heard the term **Heat Index**. Heat Index refers to the apparent temperature at one time based on combined heat and humidity. It is measured on the **Heat Index chart**. (similar to the wind chill chart we know of for winter).

But **Heat WAVES – periods of prolonged heat and humidity are even more dangerous than one very hot day** because the heat builds up and there is no cool down over time. This can be very dangerous for older people, the disabled and frail and those with chronic health conditions. **Effects of hot spells are measured by the Mean Heat Index**. The National weather service calculates the Mean Heat Index for us during heat waves. The number to watch out for is a Mean Heat Index of 85 degrees. That's when the heat becomes a problem. **Click [HERE](#) for more information on the Heat index and Mean Heat Index calculations**

Emergency responders in Milwaukee County are keeping an eye on the mean heat index this summer. You can do it, too: **Click [here](#) to check out the NOAA web site for current weather predictions in our area.**

Click on "Current watches and warnings" at the top of the NOAA web page to see if there is any dangerous weather ahead. If the probability of an 85-degree heat index is 60% or more you should make plans to beat the heat.

### **WHO'S AT RISK?**

- Elderly persons, especially those living without air-conditioning
- Young children
- Homeless or poor individuals without access to cool places to escape the heat
- Alcoholics
- Obese people
- Athletes and outdoor workers who dehydrate from physical exertion
- People with respiratory, cardiovascular, cerebrovascular or kidney problems

### **What Health Problems Are Worsened?**

- High blood pressure
- Respiratory disease
- Heart disease
- Stroke
- Kidney disease

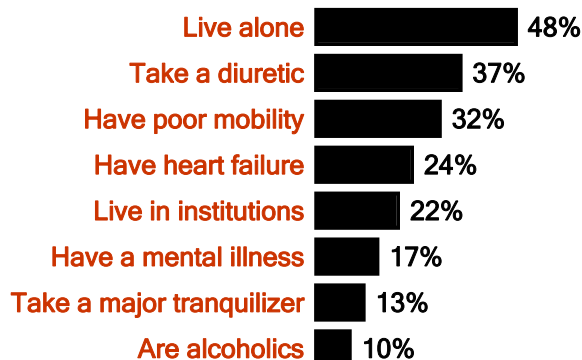
### **Greatest Risk**

**People at greatest risk are those whose bodies can't remove heat through:**

- Increased heart output
- Dilation of blood vessels in skin
- Sweating

### **WHO'S HOSPITALIZED**

Characteristics of people hospitalized for heat-related illness:



## **Taking Care in Hot Weather**

We may take water for granted, but our bodies don't. Every cell, tissue and organ needs water to function properly. We need water to keep our internal temperature stable and eliminate waste products produced by the body.

Water is as important as oxygen for sustaining life. Humans can survive up to six weeks without food, but not more than a few days, maybe a week tops, without water. Even when inactive, the body loses more than a quart of water every day — through urine, perspiration, and sweat. And most days we lose 2.5 quarts.

With all that water going out, we need to replace what's lost. For most people, that's done without a second thought: You get thirsty; you drink. Simple.

**However with the older and /or frail population the risks for dehydration are substantial because of medical conditions, age, dementia, medications and many other factors.**

When the kidneys are functioning properly, the body holds onto water when the system is a bit low and gets rid of it when there's excess. But what happens if the kidneys are not functioning well or if the balance shifts to the point where the body becomes depleted of water?

That's when the risk of dehydration becomes a potentially life-threatening condition and must be treated promptly. **Click here to see the chart "ID and Treat Heat".**

## **Keeping Cool**

**Block the Sun:** Stay indoors out of direct sunlight. Limit physical activity. Keep sunny or south facing windows closed and block sunlight during the day. Blocking from the outside is more effective than blocking from the inside.

**Ventilation:** Leave open as many windows as you safely can during the evening and overnight. In the morning, close windows and window coverings when the air temperatures are still cool.

- Blow the hot air OUT of the house any time the temperature **outside is cooler** than it is indoors. If your inside temps are cooler than outside, don't blow the hot air IN.
- Sitting in front of a fan may actually increase dehydration by evaporating sweat faster.
- Hot air moves into places where the air is cooler and it rises, if you can stay in a lower level and try to keep the hot air from getting in while ventilating, you may be cooler.
- Close doors to unused rooms and closets

**Avoid Creating Heat:** Delay heat-generating activities, like cooking and dishwashing, until evening on hot days. Turn off lights when not needed and use compact fluorescent bulbs if possible

**Cool Down Yourself:** If you can, get out to the mall, a senior center, senior meal site, library or some other air-conditioned place during the hottest part of the day.

Click here for locations of:

- Senior Centers
- Senior Dining sites
- Local Libraries

## Risk Factors For Dehydration

### How Can You Tell If Someone is Dehydrated?

The best way to determine if a person is getting enough water every day is to watch for signs from the body:

- Excessive thirst
- Urinating less frequently than normal
- Complaints of feeling unwell including stomach distress, fatigue, weakness
- Dizziness when standing
- Dry mouth
- Dry, cracked mucous membranes
- Difficulty swallowing
- Confusion
- Constipation

*Persons who have epilepsy or heart, kidney, or liver disease; are on fluid-restrictive diets; or have a problem with fluid retention should consult a doctor before increasing liquid intake.*

While there are reasons other than dehydration that can cause these symptoms, if the answer to all these questions is NO then the person is probably getting enough water.

The body usually can cope with extreme changes in water intake. But that's not true for everyone all the time. Certain factors increase the risk of dehydration and these are particularly important for older or frail/disabled people:

**Activity** People who exercise strenuously **or those who must expend a lot of energy moving around**, particularly in hot or humid weather, need to drink more water. Physically handicapped or obese persons expend more energy with less activity than healthy persons or those who carry less weight.

**Weather** People living in hot, humid climates, or those experiencing a summer heat wave, need more water than usual.

**Age** as we age, the body's ability to conserve water is reduced. The body excretes more water (through urination and perspiration) than is taken in. **In addition, those 65 or older may not feel thirsty even when their bodies need water.** This need for water is so crucial that the Food Guide Pyramid made especially for seniors features water as the base of the structure. So be sure to drink eight glasses of water a day and its ok to drink *before* you feel thirsty.

**Health** Anyone who is sick with fever, diarrhea, nausea and/or vomiting should increase water intake. **The elderly are at additional risk.**

**Medications** Many common medications - available both by prescription and over the counter - are known to dehydrate people or inhibit their ability to perspire. **In some cases, people's ability to regulate heat may be so impaired by these medications that they might not feel warm as their core temperature rises to 105 degrees, the temperature at which body functions begin to shut down.**

## **Special Concerns About Medications**

**A review of medical examiner's reports shows that most of the people who have died of heat-related causes in Milwaukee County in the last few years were taking common medications that made them more vulnerable to heatstroke.**

These medications - available both by prescription and over the counter - are known to dehydrate people or inhibit their ability to perspire. **In some cases, people's ability to regulate heat may be so impaired by these medications that they might not feel warm as their core temperature rises to 105 degrees, the temperature at which body functions begin to shut down.**

For a variety of reasons, the people who died either did not know of the dangers of exposing themselves to intense heat while on the drugs or did not take care to keep out of the heat. Most of the dead were elderly, infirm, chronically mentally ill or alcoholics.

The medications include:

- ☐ **Diuretics**, which are used to treat high blood pressure and swelling and fluid retention problems. Some common diuretics contain hydrochlorothiazide and furosemide. •
- ☐ **Mood stabilizers and anti-anxiety drugs** such as Valium. •
- ☐ **Antihistamines and sleep aids** such as Benadryl. •
- ☐ **Anti-Parkinson's drugs**, which are used to treat tremors and unintentional movements that can be caused by other drugs. •
- ☐ **Psychotropic medications for mental health disorders.**•
- ☐ **Cough medicines containing dextromethorphan**, such Robitussin DM. •
- ☐ **Over-the-counter antacids** containing cimetidine, such as Tagamet. •
- ☐ **Drugs used to treat incontinence and urinary infrequency** in the elderly, such as Detrol and Ditropan. •

Those drugs work in different ways.

Diuretics work by eliminating fluids. In extreme heat, when a person is sweating profusely, a diuretic may cause so much fluid loss that body temperature cannot be maintained at a safe level.

Some drugs work through a so-called anti-cholinergic effect.

Anti-cholinergics inhibit the neurotransmitter acetylcholine, which is used by secretory glands and is needed to sweat. Without the ability to sweat, the body loses its natural air-conditioning system.

There are several categories of drugs that can increase the likelihood of hyperthermia (heat stroke). The anti-psychotic drug Clozaril, although effective in treating mental problems, is one of the biggest offenders for causing problems in the heat. There are probably hundreds of medications that can have an impact on body fluid

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**• Ask your Doctor or Pharmacist if you think you are taking a medication that may put you at risk.**

## **Remember to Take Fluids**

**Persons who have epilepsy or heart, kidney, or liver disease; are on fluid-restrictive diets; or have a problem with fluid retention should consult a doctor before increasing liquid intake.**

To prevent dehydration, most of us need to take at least eight 8-ounce glasses throughout the day even if we don't feel thirsty. This is very important for elderly, frail, persons with chronic illnesses or persons who are taking medications that increase fluid loss or decrease ability to regulate or sense body temperature.

Posting these eight tips in a place where you can see them to achieve a good level of fluid intake.

1. Take a water break frequently throughout the day.
2. Avoid beverages containing caffeine, high sodium (soft drinks) and alcohol
3. Carry a bottle of water with you if you are going out
4. Keep a sport bottle with you during the day.
5. Drink diluted fruit juice (one part juice to two parts water) for a taste boost.
6. Drink water with each meal.
7. Drink more if it's hot or humid.
8. Consider foods as sources of water, too. Lettuce, watermelon, broccoli, grapes, carrots and apples are all more than 80-percent water by weight. Low-fat cottage cheese, yogurt, potatoes Popsicles, Jell-O, canned fruit in light sugar and canned drained tuna all contain more than 70-percent water by weight.

It's also good to put regular water breaks into your daily routine:

Experts say to drink a minimum of eight 8-ounce glasses of water per day, Try this sample schedule, then make changes to it to best fit the specific day's events.

### **Drink one 8-ounce glass of water:**

1. With breakfast
2. Mid-morning
3. With lunch
4. Mid-afternoon
5. Right before eating dinner
6. With dinner
7. Evening
8. Bedtime

### **Dr. C's Fruit Juice Cooler**

Put fresh or frozen berries in the bottom of an 8 oz. tumbler  
Add cold sparking or tonic water until the glass is about  $\frac{3}{4}$ 's full  
Fill the rest of the glass with cold lemonade, limeade, orange or other fruit juice.

Best with frozen berries, they act like ice cubes and as they thaw they add juice to the mix.

You can add additional glasses of water at each meal. And don't forget to "soak up" some water before, during and after any exercise or activity.